Listing of claims.

1. (currently amended) A vacuum-assisted resin transfer molding process for making a laminate, comprising the steps of:

(a) assembling a preform from suitable reinforcement, in a mold;

(b) tackifying the preform with a tackifier containing toughening agents for improved damage tolerance in the mold to produce a tackified preform;

(c) vacuum debulking the tackified preform;

(d) double bagging the debulked preform with an inner bag and outer bag using high elongation, low modulus nylon bagging films sufficient to control bag relaxation and to improve vacuum integrity while minimizing bag wrinkles;

(e) enclosing an open weave flow control media between the inner bag and the debulked preform to control the flow front during resin infusion, the flow media having ~~modest~~ permeability, ~~including~~ to control the infusion flow and to create flow resistance by using fill fibers ~~that~~ to act as weirs to an infusing resin, wherein the flow media also is able to withstand exposure to temperatures up to about 600°F, is chemically inert, and is sufficiently stiff ~~but~~ and pliable to eliminate markoff on the bag side of the laminate; and

(f) infusing resin into the debulked preform through the flow media using a vacuum-assisted resin transfer molding process using a series of vacuum ports spaced around the preform.

2. (withdrawn) A composite made by a process of claim 1.

3. (canceled)

4. (currently amended) The improvement of claim 1 ~~further comprising~~ wherein the step of infusing the resin ~~into~~ includes tilting the preform ~~tilted~~ at an angle off horizontal.

5. (currently amended) The process of claim 1 wherein infusion occurs with at least a portion of the preform tilted at an angle off horizontal so that gravity at least partially opposes flow of the resin into the preform.

6. (original) The process of claim 1 wherein the inner bag is applied to the preform at an elevated temperature.

7. (original) The process of claim 1 wherein vacuum debulking occurs at an elevated temperature to better bind the tackified preform together.

8. (original) The process of claim 1 wherein the reinforcement is carbon fiber, the tackifier is a plasticized epoxy, and the resin is epoxy.

9. (canceled)

10. (currently amended) An improved vacuum-assisted resin transfer molding process for infusing resin into a preform, the improvement comprising:

introducing resin to a flow media at the lowest point in the bagged preform assembly so that infusing resin flows against gravity through the flow media and preform, thereby providing improved control of the wavefront by higher resistance to flow than with horizontal infusion, the flow media having an open weave, having ~~modest~~ permeability~~,~~ reduced by including fill fibers that act as weirs to the infusing resin, wherein the flow media also is able to withstand exposure to temperatures up to about 600°F, is chemically inert, and is sufficiently stiff ~~but~~ and pliable to eliminate markoff on the bag side of the laminate.

11. (previously presented) The process of claim 1 further comprising the step of throttling vacuum lines connected in fluid communication with the double bagging so that the mass flow rate of resin through the debulked preform substantially equals the mass flow rate of resin in the vacuum lines.

12. (previously amended) In a vacuum-assisted resin transfer molding process, the improvement comprising:

throttling vacuum lines connected in fluid communication with double bagging surrounding a debulked preform so that the mass flow rate of resin through the debulked preform substantially equals the mass flow rate of resin in the vacuum lines.